1. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{6x^3 + 5x^2 - 13x - 12}{2x^2 + x - 6}$$

   A. Horizontal Asymptote at $y = -2.0$

   B. Horizontal Asymptote of $y = 3.0$ and Oblique Asymptote of $y = 3x + 1$

   C. Horizontal Asymptote of $y = -2.0$ and Oblique Asymptote of $y = 3x + 1$

   D. Horizontal Asymptote of $y = 3.0$

   E. Oblique Asymptote of $y = 3x + 1$.

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2. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{4x^3 - 4x^2 - 33x + 45}{8x^2 - 14x - 15}$$

   A. Vertical Asymptote of $x = 0.5$ and hole at $x = 2.5$

   B. Vertical Asymptotes of $x = -0.75$ and $x = 2.5$ with no holes.

   C. Vertical Asymptote of $x = -0.75$ and hole at $x = 2.5$

   D. Vertical Asymptotes of $x = -0.75$ and $x = 1.5$ with a hole at $x = 2.5$

   E. Holes at $x = -0.75$ and $x = 2.5$ with no vertical asymptotes.

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3. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{4x^2 - 11x + 6}{20x^3 - 43x^2 + 29x - 6}$$

   A. Horizontal Asymptote of $y = 0$

   B. Horizontal Asymptote of $y = 0.200$

   C. Horizontal Asymptote at $y = 2.000$

D. Oblique Asymptote of $y = 5x + 3$.

E. Horizontal Asymptote of $y = 0.200$ and Oblique Asymptote of $y = 5x + 3$

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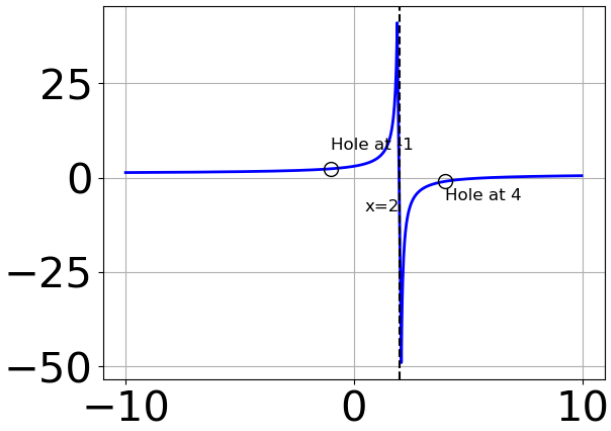
4. Which of the following functions *could* be the graph below?



A. $f(x) = \dfrac{x^3 + 3.0x^2 - 34.0x - 120.0}{x^3 - 5.0x^2 + 2.0x + 8.0}$

B. $f(x) = \dfrac{x^3 + 12.0x^2 + 41.0x + 30.0}{x^3 + 5.0x^2 + 2.0x - 8.0}$

C. $f(x) = \dfrac{x^3 - 9.0x^2 + 14.0x + 24.0}{x^3 - 5.0x^2 + 2.0x + 8.0}$

D. $f(x) = \dfrac{x^3 + 9.0x^2 + 14.0x - 24.0}{x^3 + 5.0x^2 + 2.0x - 8.0}$

E. None of the above are possible equations for the graph.

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5. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{9x^3 + 27x^2 - 4x - 12}{6x^2 - 5x - 6}$$

A. Vertical Asymptotes of $x = 1.5$ and $x = -0.667$ with no holes.

B. Holes at $x = 1.5$ and $x = -0.667$ with no vertical asymptotes.

C. Vertical Asymptote of $x = 1.5$ and hole at $x = -0.667$

D. Vertical Asymptote of $x = 1.5$ and hole at $x = -0.667$

E. Vertical Asymptotes of $x = 1.5$ and $x = 0.667$ with a hole at $x = -0.667$

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6. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{6x^3 - 25x^2 + x + 60}{3x^2 - 2x - 8}$$

A. Horizontal Asymptote at $y = 2.0$

B. Horizontal Asymptote of $y = 2.0$ and Oblique Asymptote of $y = 2x - 7$

C. Horizontal Asymptote of $y = 2.0$ and Oblique Asymptote of $y = 2x - 7$

D. Horizontal Asymptote of $y = 2.0$

E. Oblique Asymptote of $y = 2x - 7$.

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7. Determine the horizontal and/or oblique asymptotes in the rational function below.

$$f(x) = \frac{24x^3 - 38x^2 - 45x + 50}{-30x^3 + 20x^2 + 35x - 50}$$

A. None of the above

B. Horizontal Asymptote of $y = 0$

C. Vertical Asymptote of $y = -1.000$

D. Vertical Asymptote of $y = 2$

E. Horizontal Asymptote of $y = -0.800$

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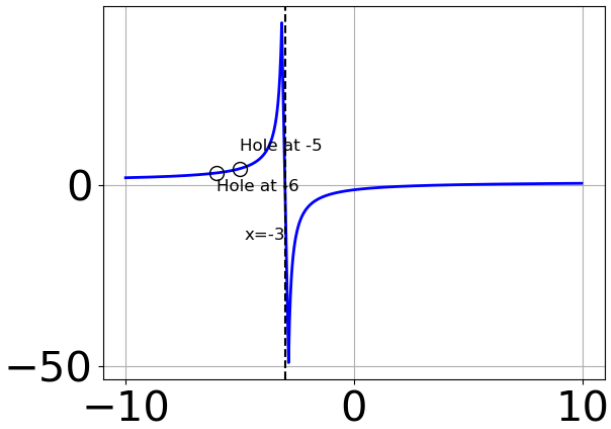
8. Which of the following functions *could* be the graph below?



A. $f(x) = \dfrac{x^3 + 7.0x^2 - 14.0x - 120.0}{x^3 + 14.0x^2 + 63.0x + 90.0}$

B. $f(x) = \dfrac{x^3 + 8.0x^2 + 19.0x + 12.0}{x^3 - 14.0x^2 + 63.0x - 90.0}$

C. $f(x) = \dfrac{x^3 - 7.0x^2 - 14.0x + 120.0}{x^3 - 14.0x^2 + 63.0x - 90.0}$

D. $f(x) = \dfrac{x^3 - 8.0x^2 + 11.0x + 20.0}{x^3 + 14.0x^2 + 63.0x + 90.0}$

E. None of the above are possible equations for the graph.

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9. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{6x^3 - 31x^2 + 53x - 30}{6x^2 + 5x - 25}$$

A. Vertical Asymptotes of $x = -2.5$ and $x = 1.5$ with a hole at $x = 1.667$

B. Vertical Asymptote of $x = 1.0$ and hole at $x = 1.667$

C. Vertical Asymptotes of $x = -2.5$ and $x = 1.667$ with no holes.

D. Vertical Asymptote of $x = -2.5$ and hole at $x = 1.667$

E. Holes at $x = -2.5$ and $x = 1.667$ with no vertical asymptotes.

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10. Determine the vertical asymptotes and holes in the rational function below.

$$f(x) = \frac{9x^3 + 15x^2 - 74x + 40}{6x^2 - 13x + 6}$$

A. Vertical Asymptotes of $x = 1.5$ and $x = 0.667$ with no holes.

B. Vertical Asymptote of $x = 1.5$ and hole at $x = 0.667$

C. Vertical Asymptote of $x = 1.5$ and hole at $x = 0.667$

D. Holes at $x = 1.5$ and $x = 0.667$ with no vertical asymptotes.

E. Vertical Asymptotes of $x = 1.5$ and $x = 1.667$ with a hole at $x = 0.667$